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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/713,578	11/16/2000	Kazuhiko Takaishi	3408.6494	3276
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CHICAGO, IL 60606

EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,578

Applicant(s)

TAKAISHI ET AL.

Examiner

K. Wong

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The formal drawings have been approved by the draftsman.

Claim Objections

Claims (17-18) are objected to because of the following informalities: the phrase "supply" in claim 17, line 3 is not clear in context. This phrase seems to be missing a complete thought or an interfacing element. The examiner has interpreted as to the supplying of the positional control current to the head driver as recited in claim 15, lines 10-11 for this office action. Appropriate correction is required.

Claim 18 has the similar phrase problem as noted in above and objected for the same reasons as discussed in claim 17 above.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims (1-20) are rejected under 35 U.S.C. 102(b) as being anticipated by Takaishi.

Regarding claim 11: Takaishi discloses a head positioning control device for a storage device for driving an actuator to position a head at a specified location on a disk and including:

a detection means (see col. 1, lines 50-55 and col. 15, lines 35-44 where Takaishi describes the acquiring of the present or current head position which requires a position detection) for detecting a present position of the head; and

a control means (see col. 6, lines 22-57 of Takaishi) that performs coarse control without integral compensation or bias compensation and then performs settling control of the actuator based on the detected position;

wherein the control means performs settling control with integral compensation or bias compensation by estimating the position of the head for the next sample; and

estimating the initial bias value from the difference between the detected position and the estimated position (see col. 6, lines 4-64 of Takaishi). The limitations of the claim are considering satisfied because Takaishi discloses a head settling control in a disk drive, which is not based on the long or coarse seeking control functions.

Regarding claim 12: Takaishi teaches that wherein the control means supplies at least at a target trajectory or feed-forward current, that is proportional to the initial position or initial velocity at the start of the settling, to a control system that performs the settling control (in col. 6, lines 33-37 of Takaishi).

Regarding claim 13: Takaishi teaches that wherein the control means performs settling control by observer control (in col. 15, lines 44-65 and col. 19, line 59 to col. 20, line 28 of Takaishi).

Regarding claim 14: Takaishi teaches that wherein the coarse control is velocity (or speed) control of the head in (col. 28, line 46 to col. 29, line 22 of Takaishi).

Regarding claim 15-20: claims (15-20) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claim 15 however also recites the following limitations of feedback control system that is met in col. 19, lines 59-65 of Takaishi.

Regarding method claims 1-5: the method claims (1-5) are drawn to the method of using the corresponding apparatus claimed in claims (11-14). Therefore method claims (1-5) correspond to apparatus claims (10-14) and are rejected for the same reasons of anticipation as used above.

Regarding method claims 5-10: method claims (5-10) are drawn to the method of using the corresponding apparatus claimed in claims (15-20) and claims (10-14). Therefore method claims (5-10) correspond to apparatus claims (11-20) and are rejected for the same reasons of anticipation as used above.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Albert (5150266), Liu (6166876) and Iwahiro (642996) are cited for head position settling control.

4. Any inquiry concerning this communication should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Hudspeth, can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377.

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Regina N. Holder
REGINA N. HOLDER
PRIMARY EXAMINER